In the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Claims 1-33 **(canceled)**

Claim 34 **(currently amended)** The method of claim 69 wherein the compound is determined to be ~~an inverse agonist to said receptor~~ a compound that reduces the activity of an active receptor state of said constitutively activated GPCR.

Claims 35-39 **(canceled)**

Claim 40 **(currently amended)** The method of claim 70 wherein the compound is determined to be ~~an inverse agonist to said receptor~~ a compound that reduces the activity of an active receptor state of said constitutively active GPCR.

Claims 41-44 **(canceled)**

Claim 45 **(currently amended)** The method of claim 69 wherein the third intracellular loop of the endogenous GPCR ~~receptor~~ of step (a) comprises the following sequence:

X1BBHyX2

Wherein X1 is an amino acid; B is a basic amino acid; Hy is a hydrophobic amino acid; and X2 is an amino acid.

Claim 46 **(original)** The method of claim 45 wherein X1 is glycine.

Claim 47 **(original)** The method of claim 45 wherein X1 is lysine.

Claim 48 **(original)** The method of claim 45 wherein Hy is alanine.

Claim 49 **(original)** The method of claim 45 wherein X2 is lysine.

Claim 50 **(original)** The method of claim 45 wherein X2 is arginine.

Claim 51 **(original)** The method of claim 45 wherein X2 is glutamic acid.

Claim 52 **(currently amended)** The method of claim 69 wherein the second intracellular loop of the endogenous GPCR ~~receptor~~ of step ~~(b)~~ (a) comprises the following sequence:

XRY

wherein X can be any amino acid other than aspartic acid; R is arginine; and Y is tyrosine.

Claim 53 **(currently amended)** The method of claim 70 wherein the third intracellular loop of the constitutively active GPCR ~~receptor~~ of step (a) comprises the following sequence:

X1BBHyX2

wherein X1 is an amino acid; B is a basic amino acid; Hy is a hydrophobic amino acid; and X2 is an amino acid.

Claim 54 **(original)** The method of claim 53 wherein X1 is glycine.

Claims 55 **(original)** The method of claim 53 wherein X1 is lysine.

Claim 56 **(original)** The method of claim 53 wherein Hy is alanine.

Claim 57 **(original)** The method of claim 53 wherein X2 is lysine.

Claim 58 **(original)** The method of claim 53 wherein X2 is arginine.

Claim 59 **(original)** The method of claim 53 wherein X2 is glutamic acid.

Claim 60 **(currently amended)** The method of claim 70 wherein the second intracellular

loop of the constitutively active GPCR ~~receptor~~ of step (a) comprises the following sequence:

XRY

wherein X can be any amino acid other than aspartic acid; R is arginine; and Y is tyrosine.

Claim 61 **(original)** The method of claim 45 wherein the sequence X1BBHyX2 is an endogenous sequence.

Claim 62 **(original)** The method of claim 52 wherein the sequence XRY is an endogenous sequence.

Claim 63 **(currently amended)** The method of claim 69 wherein said mammalian tissue source is a human tissue source ~~mammal of step (d) is a human~~.

Claim 64 **(currently amended)** The method of claim 70 wherein said mammalian tissue source is a human tissue source ~~mammal of step (d) is a human~~.

Claim 65 **(currently amended)** The method of claim 69 wherein said mammalian tissue source is a human tissue source ~~mammal of step (d) is a non-human~~.

Claim 66 **(currently amended)** The method of claim 70 wherein said mammalian tissue source is a human tissue source ~~mammal of step (d) is a non-human~~.

Claim 67 **(previously presented)** The method of claim 69 wherein said physiological function is an abnormal physiological function.

Claim 68 **(previously presented)** The method of claim 70 wherein said physiological function is an abnormal physiological function.

Claim 69 **(currently amended)** A method for directly identifying a non-endogenous candidate compound as ~~an agonist~~ a compound that stimulates an endogenous G protein coupled receptor (GPCR) or ~~an inverse agonist~~ reduces the activity of an active receptor state of an endogenous GPCR ~~to an endogenous G protein coupled receptor (GPCR),~~ wherein a location of expression of said ~~receptor~~ endogenous GPCR in a mammalian tissue source is known and said ~~receptor~~ endogenous GPCR has been correlated with at least one mammalian physiological function and wherein an endogenous ligand for said ~~receptor~~ endogenous GPCR has not been identified, said method comprising the steps of:

(a) subjecting said endogenous GPCR to constitutive receptor activation to create a constitutively activated GPCR;

(b) contacting the non-endogenous candidate compound with said constitutively activated GPCR;

(c) ~~identifying~~ determining whether said non-endogenous candidate compound ~~as an inverse agonist or an agonist to said constitutively activated GPCR~~ is a compound that stimulates said endogenous GPCR or reduces the activity of an active receptor state of said endogenous GPCR, by measuring the ability of the compound to stimulate or inhibit functionality of said constitutively activated GPCR, respectively.

Claim 70 **(currently amended)** A method for directly identifying a non-endogenous candidate compound as ~~an agonist~~ a compound that stimulates an endogenous constitutively active G protein coupled receptor (GPCR) or ~~an inverse agonist~~ reduces the activity of an active receptor state of an endogenous constitutively active GPCR ~~to an endogenous constitutively active G protein coupled receptor (GPCR)~~, wherein a location of expression of said ~~receptor~~ constitutively active GPCR in a mammalian tissue source is known and said ~~receptor~~ constitutively active GPCR has been correlated with at least one mammalian physiological function and wherein an endogenous ligand for said ~~receptor~~ constitutively active GPCR has not been identified, said method comprising the steps of:

(a) contacting the non-endogenous candidate compound with said constitutively active GPCR;

(b) ~~identifying~~ determining by measurement of the ability of the compound to inhibit or stimulate functionality of said constitutively active GPCR, whether said non-endogenous candidate compound ~~an inverse agonist or an agonist to said constitutively activated GPCR~~ is a compound that stimulates said constitutively activate GPCR or reduces the activity of an active receptor state of said constitutively activate GPCR.

Claim 71 **(withdrawn)** A compound directly identified by the method of claim 69.

Claim 72 **(withdrawn)** A compound directly identified by the method of claim 70.

Claim 73 **(withdrawn)** A pharmaceutical composition comprising the compound of claim 71.

Claim 74 **(withdrawn)** A pharmaceutical composition comprising the compound of claim 72.

Claims 75 and 76 **(canceled)**